

10. ~~An isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:6.~~

Sub C4
11. A recombinant iduronate 2-sulfatase (IDS) or fragment thereof retaining enzymatic activity wherein said IDS or fragment thereof is more highly glycosylated than IDS isolated from human tissue and wherein said recombinant IDS or fragment thereof comprises a fusion protein having a proteinaceous molecule at the carboxyl terminus or N terminus of said IDS.

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12. The recombinant IDS ~~or fragment thereof~~ of Claim 11 wherein ~~the proteinaceous molecule is~~ ^{fusion protein comprises a} selected from the group consisting of an enzyme, a reporter molecule, a purification moiety, and an amino acid.

13. An antibody which selectively binds to a recombinant iduronate 2-sulfatase (IDS) or fragment thereof retaining enzymatic activity wherein said IDS or fragment thereof is more highly glycosylated than IDS isolated from human tissue and wherein said antibody does not bind IDS isolated from human tissue.

14. An antibody which binds to the antibody of Claim 13.

15. An antibody according to Claim 13 or 14 wherein said antibody is a polyclonal or monoclonal antibody.

Sub C6
16. A recombinant human iduronate 2-sulfatase (IDS) or fragment thereof retaining enzymatic activity wherein said IDS or fragment thereof is produced in a human cell and wherein said IDS or fragment thereof is more highly glycosylated than IDS isolated from human tissue.

17. A recombinant human iduronate 2-sulfatase (IDS) or fragment thereof according to Claim 16 wherein said human cell is a fibroblast.

18. The recombinant human iduronate 2-sulfatase (IDS) or fragment thereof of Claim 17 wherein the fibroblast is a human diploid fibroblast.

19. The recombinant human iduronate 2-sulfatase (IDS) or fragment thereof of Claim 17 wherein the fibroblast is from a human fibroblast cell line.

20. The recombinant human iduronate 2-sulfatase (IDS) or fragment thereof of Claim 19 wherein the human fibroblast cell line is SF-635, SF-1779, or SF-3409.

21. A pharmaceutical composition useful for treating patients suffering from a deficiency of iduronate 2-sulfatase (IDS), said composition comprising one or more pharmaceutically acceptable carriers or diluents and a recombinant IDS or fragment thereof retaining enzymatic activity wherein said recombinant IDS or fragment thereof is more highly glycosylated than IDS isolated from human tissue.

22. The pharmaceutical composition of Claim 21 wherein said recombinant iduronate 2-sulfatase (IDS) or fragment thereof is produced in a eukaryotic cell.

1623. The pharmaceutical composition of Claim 22 wherein the eukaryotic cell is a fibroblast or Chinese Hamster Ovary (CHO) cell.

~~17~~¹⁶ 24. The pharmaceutical composition of Claim ~~23~~¹⁶ wherein the fibroblast is a human diploid fibroblast.

~~18~~¹⁶ 25. The pharmaceutical composition of Claim ~~23~~¹⁶ wherein the fibroblast is from a human fibroblast cell line.

~~19~~¹⁸ 26. The pharmaceutical composition of Claim ~~23~~¹⁸ wherein the human fibroblast cell line is SF-635, SF-1779, or SF-3409.

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27. A host cell which expresses an iduronate 2-sulfatase (IDS) or fragment thereof retaining enzymatic activity wherein the IDS or fragment thereof is more highly glycosylated than IDS isolated from human tissue and wherein the IDS or fragment thereof is heterologous to the host cell.

28. The host cell of Claim 27 wherein the cell is a Chinese Hamster Ovary (CHO) cell or a fibroblast.

29. A fibroblast according to Claim 28 wherein said fibroblast is a human diploid fibroblast.

30. A fibroblast according to Claim 28 wherein said fibroblast is from a human fibroblast cell line.

31. A fibroblast according to Claim 30 wherein said fibroblast cell line is SF-635, SF-1779, or SF-3409.

REMARKS

It is respectfully requested that the present amendment be entered in the above-captioned application before an action on the merits is issued.